

functional alcohols as well as their ethoxylation products, with terminal hydroxy, amino, thio or heterocyclic groups containing at least one active hydrogen. As a matter of course, for the purposes of the invention it is also possible to utilize mixtures of these compounds. Table 1 lists some examples of technically important compounds.

Table 1: Examples of technically significant (meth)acrylates with active hydrogen

$\begin{array}{c} \text{R}_1 \\ \\ \text{H}_2\text{C}=\text{C}-\text{C}(=\text{O})-\text{O}-\text{R}_2-\text{OH} \\ \\ \text{O} \end{array}$ <p> $\text{R}_1 = \text{CH}_3, \text{H}$ $\text{R}_2 = \text{C}_2\text{H}_4, \text{C}_3\text{H}_6, \text{C}_4\text{H}_8$ </p> <p>Hydroxyalkyl (meth)acrylates</p>	$\begin{array}{c} \text{R}_1 \quad \text{H} \\ \quad \\ \text{H}_2\text{C}=\text{C}-\text{C}(=\text{O})-\text{O}-\text{R}_2-\text{N}-\text{R}_4 \\ \\ \text{O} \end{array}$ <p> $\text{R}_1 = \text{CH}_3, \text{H}$ $\text{R}_2 = \text{C}_2\text{H}_4, \text{C}_3\text{H}_6, \text{C}_4\text{H}_8$ $\text{R}_3 = \text{H}, \text{CH}_3, \text{C}_2\text{H}_5, \text{C}_3\text{H}_7, \text{C}_4\text{H}_9$ </p> <p>Aminoalkyl (meth)acrylates</p>
$\begin{array}{c} \text{R}_1 \\ \\ \text{H}_2\text{C}=\text{C}-\text{C}(=\text{O})-\text{O}-\text{R}_2-\text{SH} \\ \\ \text{O} \end{array}$ <p> $\text{R}_1 = \text{CH}_3, \text{H}$ $\text{R}_2 = \text{C}_2\text{H}_4, \text{C}_3\text{H}_6, \text{C}_4\text{H}_8$ </p> <p>Thioalkyl (meth)acrylate</p>	$\begin{array}{c} \text{R}_1 \quad \text{R}_2 \\ \quad \\ \text{H}_2\text{C}=\text{C}-\text{C}(=\text{O})-\text{O}-\left[\text{CH}_2-\text{CH}(\text{O}) \right]_n-\text{H} \\ \\ \text{O} \end{array}$ <p> $\text{R}_1 = \text{CH}_3, \text{H}$ $\text{R}_2 = \text{CH}_3, \text{H}$ $n = 1-15$ </p> <p>PEG/PPG-(meth)acrylates</p>

Apolar (meth)acrylates according to b) are understood to be conversion products of monofunctional alcohols or amines with acrylic acid or methacrylic acid as well as mixtures thereof. Technically significant representatives of this class are methyl (meth)acrylate, ethyl acrylate, butyl acrylate, hexyl (meth)acrylate, isooc-

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CLAIMS

1. Polymer composition which can be produced by polymerisation of

- a) 1 to 50%-wt, of polar (meth)acrylates with Tserevitinov hydrogen,
- b) 50 to 99%-wt of apolar (meth)acrylates,
- c) up to 10%-wt of a bi-, tri- or higher functional (meth)acrylates or of a (poly)functional compound which is reactive to Tserevitinov hydrogens, the weight percentages indicated under a) to c) adding up to 100%-wt,
- d) 0.05 to 5%-wt of an initiator, relative to the sum of the components of a) to c), the weight percentages indicated under a) to d) adding up to 100%-wt, and
- e) up to 90%-wt of a liquid, chemically inert medium, relative to the sum of the components of a) to d).

2. Polymer composition according to claim 1, characterized in that the polar (meth)acrylates do not contain carboxyl groups.

3. Polymer composition according to claim 1 or 2, characterized in that the polar (meth)acrylates are selected from the group consisting of 2-hydroxyethyl (meth)acrylate, 3-hydroxypropyl (meth)acrylate, 4-hydroxybutyl (meth)acrylate, PEG (meth)acrylates, 2-aminoethyl (meth)acrylate, 3-aminopropyl (meth)acrylate and 4-aminobutyl (meth)acrylate.

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4. Polymer composition according to any one of the preceding claims, characterized in that the polar (meth)acrylates are selected from the group of the hydroxy(meth)acrylates.
5. Polymer composition according to any one of claims 1 to 3, characterized in that the polar (meth)acrylates are selected from the group of amino(meth)acrylates.
6. Polymer composition according to any one of the preceding claims, characterized in that the apolar (meth)acrylates are esterification products of acrylic acid or methacrylic acid with monovalent alcohols or amines.
7. Polymer composition according to claim 6, characterized in that the apolar (meth)acrylates are selected from the group of alkyl (meth)acrylamides.
8. Polymer composition according to claim 6, characterized in that the apolar (meth)acrylates are esterification products of acrylic acid or methacrylic acid with monohydric alcohols having 6 to 15 C atoms, preferably 6 to 10 C atoms.
9. Polymer composition according to claim 8, characterized in that the apolar (meth)acrylates are selected from the group consisting of methyl (meth)acrylate, ethyl (meth)acrylate, butyl (meth)acrylate, hexyl (meth)acrylate, isooctyl (meth)acrylate, 2-ethylhexyl (meth)acrylate, isodecyl (meth)acrylate and isobornyl (meth)acrylate.
10. Polymer composition according to any one of the preceding claims, characterized in that the di-, tri- or higher functional (meth)acrylates are selected from

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the group consisting of the conversion products of (meth)acrylic acid with diols, triols or polyols, the analogous vinyl ethers or mixtures thereof, as well as (meth)acrylated polyesters and (meth)acrylated polyurethanes.

11. Polymer composition according to claim 10, characterized in that the (meth)acrylated polyesters are conversion products of OH-terminated polyester polyols with (meth)acrylic acid or reaction products of carboxyl groups-containing polyester polyols with hydroxyl groups-containing (meth)acrylates.

12. Polymer composition according to claim 10, characterized in that the (meth)acrylated polyurethanes are conversion products of amine- or hydroxyl-terminated (meth)acrylates with diisocyanates or polyisocyanates.

13. Polymer composition according to any one of the preceding claims characterized in that the compound reactive to Tserevitinov hydrogen is selected from the group consisting of mono-, di- and polyepoxides.

14. Polymer composition according to any one of claims 1 to 13 characterized in that the compound reactive to Tserevitinov hydrogen is selected from the group consisting of mono-, di- and polyisocyanates.

15. Polymer composition according to any one of claims 1 to 13 characterized in that the compound reactive to Tserevitinov hydrogen is selected from the group consisting of mono-, di- and polyaziridines.

16. Polymer composition according to any one of claims 1 to 13 characterized in that the compound reactive to

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Tserevitinov hydrogen is selected from the group consisting of melamine and its derivatives.

17. Process for the production of a polymer composition according to any one of the preceding claims, characterized in that it comprises a polymerisation reaction which is performed free of solvent, in water, or in an organic, inert solvent.

18. Use of the polymer composition according to any one of claims 1 to 16, as adhesive or as sealant.

19. Use of the polymer composition according to any one of claims 1 to 16 for the production of pressure sensitive adhesive tapes.

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